Work Order ID 114633

March-11-14 2:53:35 PM

114633

Item ID: D4634-1 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID:

Item Name: Fwd, Center Ceiling Panel **Stop** *NS2*

Start Date: 12/03/2014 **Start Qty:** 1.00 *1*

Required Date: 12/03/2014 **Req'd Qty:** 1.00 *1*

Reference:

Cust Item ID:

Customer:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** MLJ **Date:** 14-03-12 **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Draw Nbr	Revision Nbr
D4634	F

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
							0		
100		0.00							DAS 07 9-89
100	HAND FINISHING THERMOFORMING					x1			14/04/03
Thermoform	**Memo**	0.00							
Thermoforming Machine	Cut Blanks								
105		0.00							DAS 07 9-89
105	Dry Material					x1			14/04/03
HandThermo	**Memo**	0.00							
Hand Finishing Thermoforming	Dry Sheet as per QSI022 POLYCARBONATE								

Temp: ~~245 deg. F~~

Time IN: ~~5:00 PM~~ APR 0 3 2014

Time OUT: 6:00 AM

Per.....

DQA: _____ Date: _____

DART AEROSPACE

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric
- ☐ Cracks
- ☐ Crimp/Kink/Ripple/Wave
- ☐ Cuffs
- ☐ Crushing
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Marks/Chatter
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damage/Defect
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drawing
- ☐ Drill Holes
- ☐ Finish
- ☐ Fit/Function
- ☐ Folio/Program
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete/Unqualified
- ☐ Instructions Incomplete/Unclear
- ☐ Misaligned/off center
- ☐ Mislabeled
- ☐ Misread
- ☐ Off-set
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Set-up
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

Item ID: D4634-1 **Accept** *N900040100* **Setup Start** *NS1*
Revision ID: **Stop** *NS2*
Item Name: Fwd, Center Ceiling Panel
Start Date: 12/03/2014 **Start Qty:** 1.00 *1*
Required Date: 12/03/2014 **Req'd Qty:** 1.00 *1*
Reference:
Cust Item ID:
Customer:

Run Start *NR1*
Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110		0.00							DAS 07 9-89
110	THERMOFORMING MACHINE					X1			
Thermoform	**Memo**	0.00							14/04/03
Thermoforming Machine	Thermoform as per Dwg. D4634-1 and Folio FTA144								
	Dwg. Rev. F								
	Folio Rev. D								
	Visually inspect for proper formation and texture								
130		0.00							
130	HAND FINISHING THERMOFORMING					X1			B 14/04/29
Thermoform	**Memo**	0.00							
Thermoforming Machine	Trim to Finished Dimensions								
140	~~QC~~ Inspect dimensions to drawing	0.00							DAS 16 9-89 14/11/3
140	Dimensional Inspection								
QC	**Memo**	0.00							
Quality Control	Fill in Inspection Sheet Rev A								

DQA: _____ Date: _____

DART AEROSPACE

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐ ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

☐ Bending
☐ Centre Not Concentric
☐ Cracks
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☐ Cuffs
☐ Crushing
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Marks/Chatter
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General

☐ Bend
☐ BOM/Route
☐ Broken/Damage/Defect
☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drawing
☐ Drill Holes
☐ Finish
☐ Fit/Function
☐ Folio/Program
☐ Grain
☐ Hardware
☐ Inspection Incomplete/Unqualified
☐ Instructions Incomplete/Unclear
☐ Misaligned/off center
☐ Mislabeled
☐ Misread
☐ Off-set
☐ Out of Calibration
☐ Out of Sequence
☐ Outside Dimensions
☐ Over/Under tolerance
☐ Part Incorrect
☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge
☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled
☐ Other _____

Item ID: D4634-1 **Accept** *N900040100* **Setup Start** *NS1*
Revision ID: **Stop** *NS2*
Item Name: Fwd, Center Ceiling Panel
Start Date: 12/03/2014 **Start Qty:** 1.00 *1*
Required Date: 12/03/2014 **Req'd Qty:** 1.00 *1*
Reference:
Cust Item ID:
Customer:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run Start *NR1*
Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150 *150* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00							
160 *160* Packaging Packaging	Packaging Memo MF	0.00 0.00				1	SAJ 14/06/30		
170 *170* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00							

MCJ 14-05-01

14 03-30

DQA: _____ Date: _____

DART AEROSPACE

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐ ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

☐ Bending
☐ Centre Not Concentric
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☐ Cuffs
☐ Crushing
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Marks/Chatter
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General

☐ Bend
☐ BOM/Route
☐ Broken/Damage/Defect
☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drawing
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☐ Finish
☐ Fit/Function
☐ Folio/Program
☐ Grain
☐ Hardware
☐ Inspection Incomplete/Unqualified
☐ Instructions Incomplete/Unclear
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☐ Outside Dimensions
☐ Over/Under tolerance
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☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge
☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled
☐ Other _____

Picklist Print

March-11-14 2:53:23 PM

1/1

Work Order ID: 114633

114633

Parent Item: D4634-1

D4634-1

Parent Item Name: Fwd, Center Ceiling Panel

Start Date: 12/03/2014 **Required Date:** 12/03/2014

Start Qty: 1.00 **Required Qty:** 1.00

Comments: IPP Rev.A New Issue 12/05/07 DL VERIFIED BY:JLM IPP Rev. B Dwg. Update 13/07/09 DL verf:DD IPP Rev C Dwg Update, Material Change 13/12/18 DL IPP Rev D Dwg Update Change Mtl Qty. 14/01/20 DL

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MLEXS.093-F6006-07		Purchased	No			100	sf	840.7600	17.3	18			
MLEXS.093-F6006-07									**				
GE PLASTICS LEXAN SHEET													

DH

14/04/30

Location	Loc Qty	Loc Code
MAT023	840.76	
114459	229.26	
123105	38	
124501	573.5	
178668		

18 sq ft

DQA: _____ Date: _____

DART AEROSPACE

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

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Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

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Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐ ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
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FAULT CATEGORY

Landing Gear

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☐ Heat Treat
☐ Inspection Strip in Tube
☐ Marks/Chatter
☐ Turning Sequence
☐ Wave/Twist in Tube

General

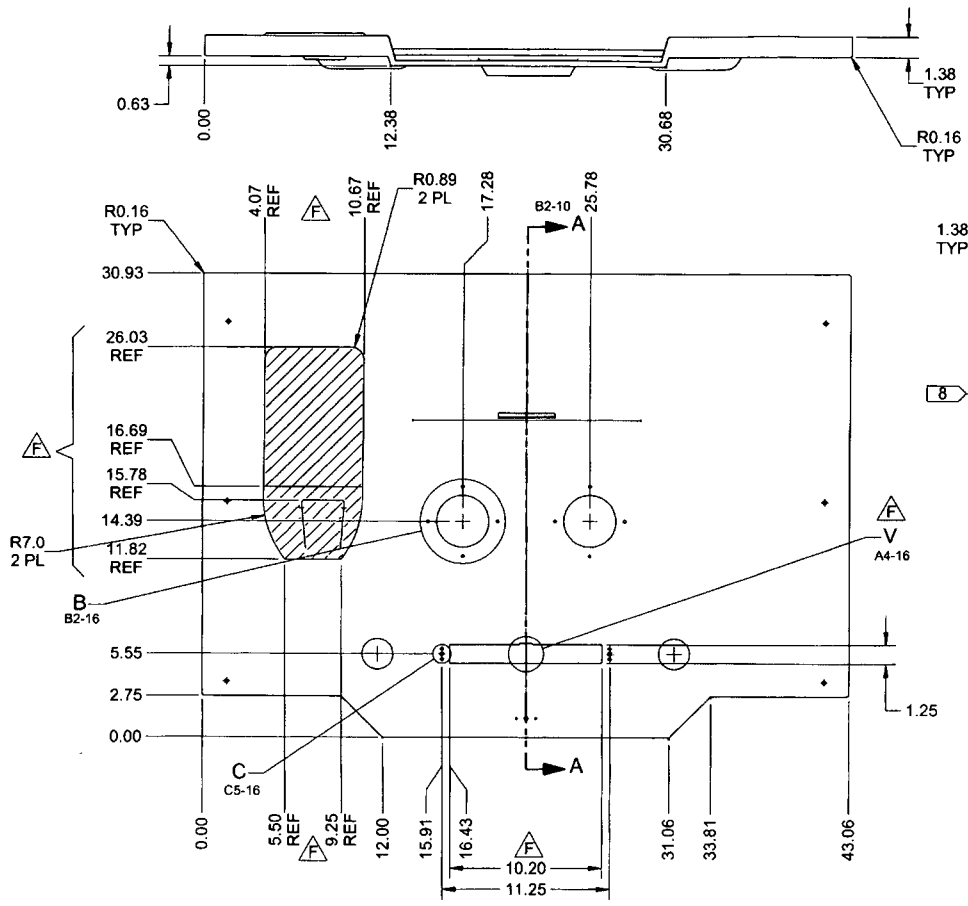
☐ Bend
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☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drawing
☐ Drill Holes
☐ Finish
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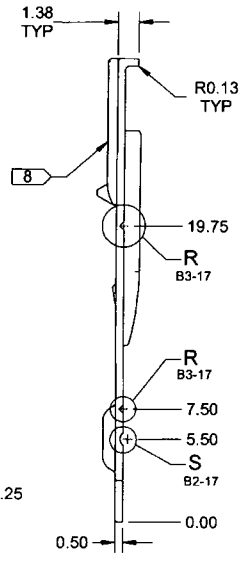
☐ Folio/Program
☐ Grain
☐ Hardware
☐ Inspection Incomplete/Unqualified
☐ Instructions Incomplete/Unclear
☐ Misaligned/off center
☐ Mislabeled
☐ Misread
☐ Off-set
☐ Out of Calibration
☐ Out of Sequence

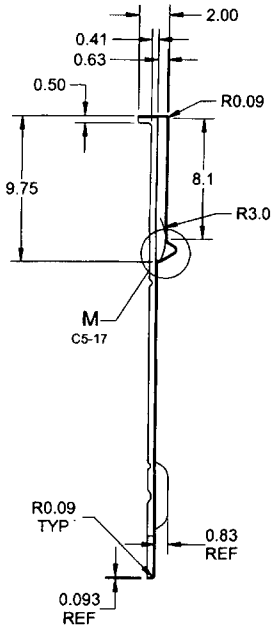
☐ Outside Dimensions
☐ Over/Under tolerance
☐ Part Incorrect
☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge

☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled

☐ Other _____







SECTION A-A C6-10

114633 MLJ 14-03-12

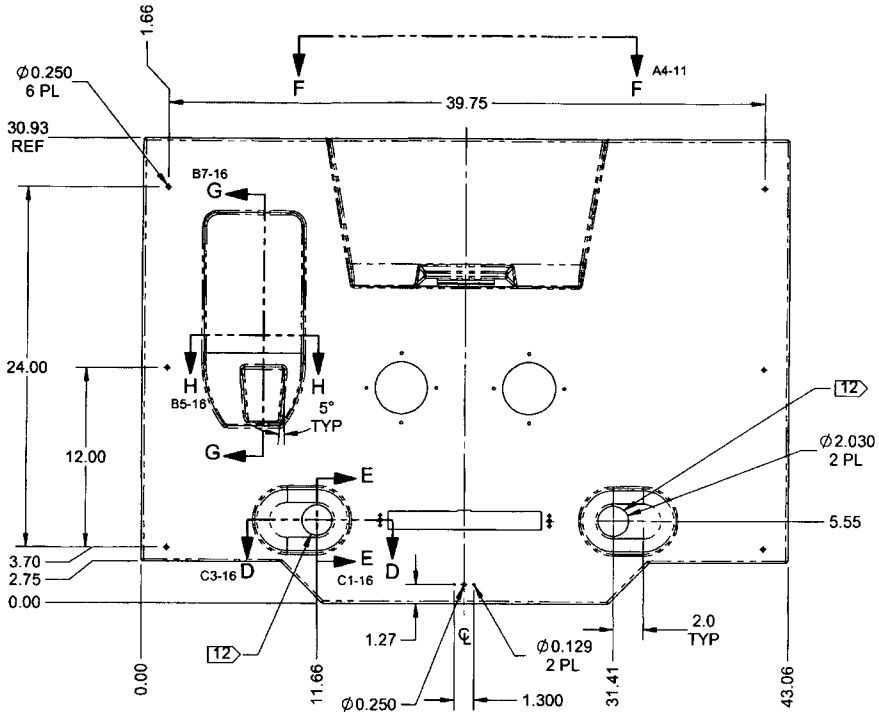
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2014 FEB 25

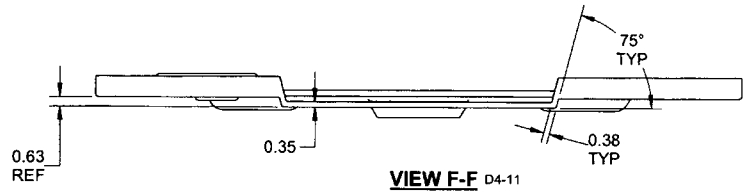
NOTES:
1) MATERIAL: F6006 SUEDE/POLISHED GY5B133 LIGHT GREY LEXAN SHEET 0.093 THICK (REF DART SPEC MLEXS.093-F6006-07)
2) FINISH: N/A
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: N/A
7) WEIGHT: 5.65 lbs
8) TEXTURE ON THIS SIDE
9) 0.14 RADIUS NOT SHOWN FOR CLARITY
10) DRILL & TRIM D4634-1 PER TOOL DT9836
11) THERMOFORM PER QSI 022 USING DT9844 TOOL
MIN. THICKNESS AFTER FORMING:
SHADED AREA = 0.020
EDGES = 0.060
ELSEWHERE = 0.070
12) LOCATE ∅2.030 AT CENTER OF PROTRUDED SURFACE AS SHOWN

D4634-1 FWD, CENTER CEILING PANEL

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	
CHECKED	BC	DRAWING NO. D4634 REV. F
MFG. APPR.		SHEET 10 OF 17
APPROVED		TITLE CENTER CEILING PANELS SCALE NTS
DE APPR.		
DATE	14.02.03	

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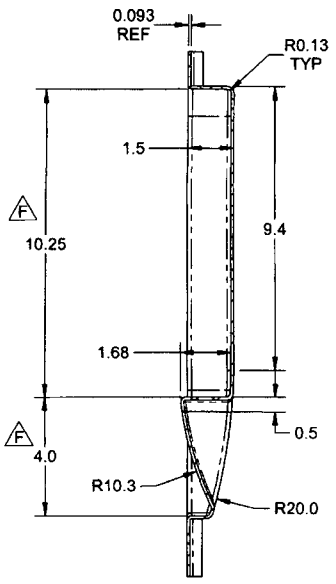
VIEW F-F D4-11

D4634-1 FWD, CENTER CEILING PANEL
AUXILIARY VIEW

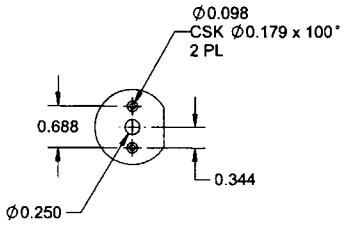
RELEASED
2014 FEB 25

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	DRAWING NO. D4634 REV. F SHEET 11 OF 17
CHECKED		TITLE CENTER CEILING PANELS SCALE NTS
MFG. APPR.		
APPROVED		
DE APPR.		
DATE	14.02.03	

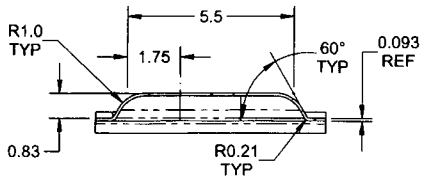
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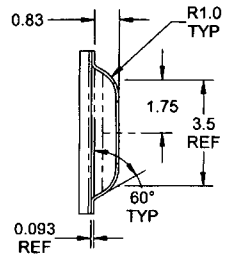
SECTION G-G C5-11
SCALE 4X



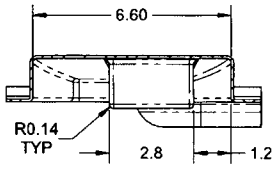
DETAIL C B7-10 B4-12 B4-14
SCALE 4X



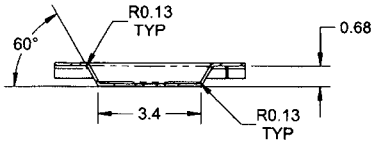
SECTION D-D B6-11 C4-13 C4-15
SCALE 2X



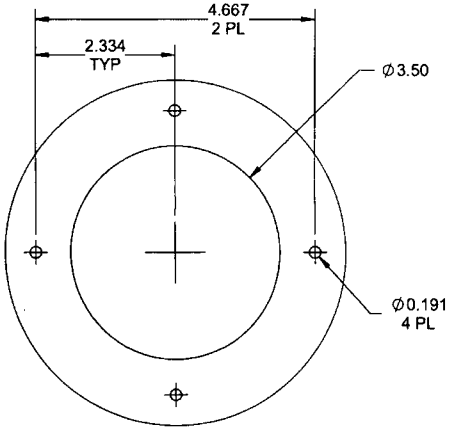
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SCALE 4X



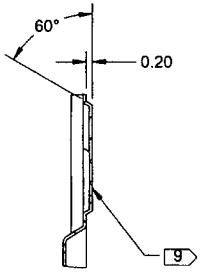
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SCALE 2X



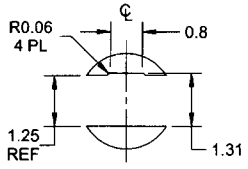
SECTION J-J B6-13
SCALE 2X



DETAIL B B7-10
SCALE 4X
2 PL



DETAIL L B2-13 C2-13 B2-14 C2-14
SCALE 4X
TYP

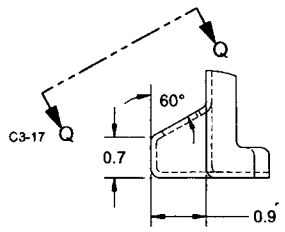


DETAIL V C4-10 B4-12 C4-14
SCALE 2X
SIMILAR

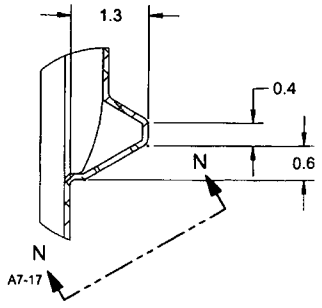
RELEASED
2014 FEB 25

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	DRAWING NO. D4634 REV. F
CHECKED	BC	SHEET 16 OF 17
MFG. APPR.		TITLE CENTER CEILING PANELS SCALE NTS
APPROVED		
DE APPR.		
DATE	14.02.03	

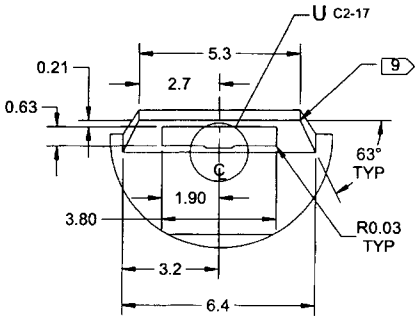
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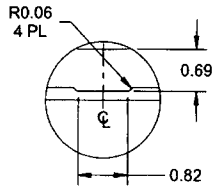
DETAIL P B3-14
SCALE 2X



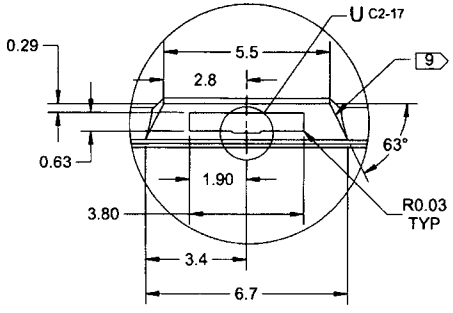
DETAIL M C3-10
SCALE 2X



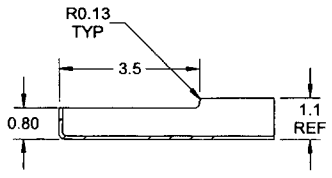
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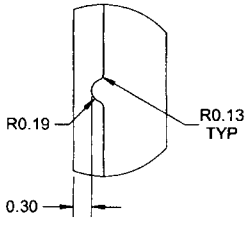
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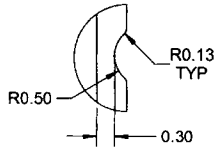
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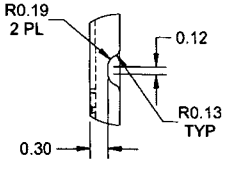
SECTION O-O B6-14
SCALE 1.3X



DETAIL R B3-10 C3-10 B2-12
SCALE 4X



DETAIL S B3-10 C2-12
SCALE 4X



DETAIL T C2-14
SCALE 4X

RELEASED
2014 FEB 25

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	DRAWING NO. D4634 REV. F
CHECKED	SC	SHEET 17 OF 17
MFG. APPR.		TITLE CENTER CEILING PANELS SCALE NTS
APPROVED		
DE APPR.		
DATE	14.02.03	

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DART AEROSPACE LTD

Description: Fwd Center Ceiling Panel		**Work Order:**	114633
Inspection Drawing: 4634-1	**Rev:** F	**Part Number:**	4634-1

INSPECTION SHEET

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
12.00	+/-0.030	12.00	✓		M-T	ENG-05
24.00	+/-0.030	24.00	✓		"	↓
39.75	+/-0.030	39.75	✓		"	
11.66	+/-0.030	11.6	✓		"	
31.41	+/-0.030	31.6	✓		"	↓
1.300	+/-0.010	1.300	✓		Vern	FAB-08
Ø0.250	+0.005 -0.001	Ø0.250	✓		"	↓
Ø2.030	+0.002 -0.001	Ø2.030	✓		"	
4.667	+/-0.010	4.667	✓		"	
2.334	+/-0.010	2.334	✓		"	
Ø3.50	+/-0.010	Ø3.50	✓		"	
Ø0.191	+0.005 -0.001	Ø0.191	✓		"	
3.80	+/-0.030	3.78	✓		"	
0.63	+/-0.030	0.63	✓		"	
1.25	+/-0.030	1.25	✓		"	↓
10.20	+/-0.030	10.25	✓		M-T	ENG-05
11.25	+/-0.030	11.25	✓		M-T	"

Measured by: SAD **Date** 14/04/30	**Checked By:** DAS 16 9-89 **Date** 14/04/30	**QC inspector:** DAS 16 9-89 **Date** 14/04/30	**Engineering Approval** *(if necessary)*: **Date**